

## ANALYTICAL REPORT

JOB NUMBER: 200382

Prepared For:

RMT 222 S. Riverside Plaza Suite 820 Chicago, IL 60606

Attention: Rae Mindock

Date: 09/18/2000

Signature

Name: Eric A. Lang

Title: Project Manager

9/18/00

Date

Severn Trent Laboratories

2417 Bond Street

University Park, IL 60466-318

PHONE: (708) 534-5200 FAX..: (708) 534-5211

# SAMPLE INFORMATION Date: 09/18/2000

Job Number.: 200382

Customer...: RMT

Attn....: Rae Mindock

Project Number.....: 20000334 Customer Project ID...: RIVERDALE CHEMICAL Project Description...: Riverdale Chemical

aboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
200382-1	DSL6	Soil	09/11/2000	14:45	09/11/2000	16:00
					1	
				}		
				}		
			<u> </u>			}

### STL Chicago Pesticide Case Narrative

**RMT** 

Riverdale Chemical Job #: 200382-1 TCLP Pesticides

1. STL Chicago used the following Gas Chromatographic systems for the analysis of these pesticides:

<u>ID#</u>	INSTRUMENT	<b>COLUMN TYPE</b>	<b>DETECTOR</b>
05	Varian 3400	ZB-5	Electron Capture
06	Varian 3400	Rtx-35	Electron Capture

- 2. This TCLP extract was extracted based on SW846 method 3510. The extracts were analyzed for TCLP pesticides based on SW846 method 8081A.
- 3. All required holding times were met for the extraction and analysis.
- 4. The method blanks were below the reporting limits for all target compounds.
- 5. The surrogate compounds used for this analysis were Decachlorobiphenyl (DCB) and Tetrachloro-m-xylene (TCX). All surrogate recoveries were within statistical control limits.
- 6. All blank spike recoveries were within statistical control limits.
- 7. A matrix spike was performed on this sample. Statistical control limits established for a water matrix are used as advisory for TCLP samples. All recoveries were within statistical control limits, with the exception of Heptachlor epoxide, which was biased high with 140% recovery. Heptachlor epoxide was not detected in the associated sample.
- 8. All initial and continuing standard calibrations associated with this sample were in control for all target compounds.

Linda S. Mackley

Organics Section Manager

7-18-00

**Date** 

LABORATORY TEST RESULTS

Job Number: 200382

Date: 09/18/2000

CUSTOMER: RMT

PROJECT: RIVERDALE CHEMICAL

ATTN: Rae Mindock

Customer Sample ID: DSL6 Date Sampled....: 09/11/2000 Time Sampled....: 14:45 Sample Matrix....: Soil

Laboratory Sample ID: 200382-1 Date Received.....: 09/11/2000 Time Received.....: 16:00

ST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TI
1311	TCLP Extraction					
	TCLP Extraction, TCLP	Complete			09/13/00	1
081A	Organochlorine Pesticide Analysis					
	gamma-BHC (Lindane), TCLP	ND	2.5	ug/L	09/16/00	
	Heptachlor, TCLP	ND	2.5 2.5	ug/L	09/16/00	Ľ
	Heptachlor epoxide, TCLP	ND	12.5	ug/L	09/16/00	1
	Endrin, TCLP	ND	5.0	ug/L	09/16/00	
	Methoxychlor, TCLP	ND	25 50	ug/L	09/16/00	
	Toxaphene, TCLP Chlordane, TCLP	ND ND	110	ug/L	09/16/00	
	chtordane, ictr	IND	10	ug/L	09/16/00	
3510C	Extraction for TCLP (Chlor.Pest)					1
	Separatory Funnel Liq/Liq Extraction, TCLP	Complete	}		09/15/00	1
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<sup>\*</sup> In Description = Dry Wgt.

	Job Number.: 200382	QUALIT	Y	CONTROL	RI	ESULT	S	Report Date.: 09/18/2000					
CUSTOMER: RI	uT	PR	DJEC	T: Riverdale C	hemic	at		ATTN:	Rae Mindock				
QC Type	Description			Reag. Code		Lab	ID	Dilu	tion Factor	Date	Time		
	: 8081A ription.: Organochlorine Pe	sticide Analys	is			: ug,		Analyst: lsm					
MB	Method Blank					3313		y.		09/15/2000	2146		
Parar	meter/Test Description	QC Result	Q	QC Result	True	Value	Orig.	Value	Calc. Resul	t * Limits	F		
amma-BHC (Lineptachlor eptachlor epondrin lethoxychlor oxaphene chlordane		0 0 0 0 0 0	U U U U U								·-		
LCS	Laboratory Control Sample			000HWLPTFA		3313				09/15/2000	2219		
Para	meter/Test Description	QC Result	۵	QC Result	True	Value	Orig.	Value	Calc. Resul	t * Limits	F		
amma-BHC (Li deptachlor deptachlor epo andrin dethoxychlor chlordane	•	0.010 0.009 0.009 0.010 0.104 0.009				0.010000 0.010000 0.010000 0.010000 0.100000 0.010020			100.0 90.0 90.0 100.0 104.0 89.8	56.0-12 50.0-12 59.0-12 30.0-15 38.0-14 68.0-11	9.0 6.0 4.0 9.0		
LCS	Laboratory Control Sample			OOOHWLPTTA	11	3313				09/15/2000	2253		
Parar	meter/Test Description	QC Result	Q	QC Result	True	Value	Orig.	Value	Calc. Resul	t * Limits	F		
oxaphene		0.965	. – -			1.002000	<del></del>		96.3	65.0-13	8.0		
EB1	Extraction Blank 1					3313		<del></del>		09/15/2000	2326		
Parar	meter/Test Description	QC Result	Q	QC Result	True	Value	Orig.	Value	Calc. Resul	t * Limits	F		
gamma-BHC (Lin Heptachlor Heptachlor epo Endrin Methoxychlor Toxaphene Chlordane		0 0 0 0 0 0	טטטטטטטטטטטטטטטט								<i></i>		
MS	Matrix Spike			DOOHWLPTFA		200382-1				09/16/2000	0033		
Parar	meter/Test Description	QC Result	Q	QC Result	True	Value	Orig.	Value	Calc. Resul	t * Limits	F		
gamma-BHC (Lin deptachlor deptachlor ep Endrin dethoxychlor	·	0.010 0.009 0.014 0.010 0.109	· <del>-</del> -		<b></b>	0.010000 0.010000 0.010000 0.010000 0.100000		0 0 0 0	100.0 90.0 140.0 100.0 109.0	56-12 50-12 59-12 30-15 38-14	9 6 * 4		

	Job Number.: 200382	QUALIT	Y	CONTROL	. R	ESULT	s	Report	Date.: 09/18	8/2000	
CUSTOMER: RN	мπ	PR	OJEC1	: Riverdale (	hemic	al		ATTN:	Rae Mindock		
ас туре	Description			Reag. Code		Lab	ID	Dilut	ion Factor	Date	Time
MS	Matrix Spike			000HWLPTFA		200382-1				09/16/2000	0033
Parar	meter/Test Description	QC Result	Q	QC Result	True	Value	Orig.	Value	Calc. Resul	t * Limit	s F
Chlordane		0.009		· · · · · · · · · · · · · · · · · · ·		0.010020		0	89.8	68-1	18
MS	Matrix Spike			000HWLPTTA		200382-1				09/16/2000	0106
Parar	meter/Test Description	QC Result	Q	QC Result	True	Value	Orig.	Value	Calc. Resul	t * Limit	s F
Toxaphene	<del> </del>	0.992		<del></del>		1.002000		0	99.0	65-1	38

SURROGATE RECOVERIES REPORT

Job Number.: 200382

Report Date.: 09/18/2000

CUSTOMER: RMT

PROJECT: RIVERDALE CHEMICAL

ATTN: Rae Mindock

Method...... Organochlorine Pesticide Analysis Method Code.....: 8081

Batch...... 3330 Analyst.....: lsm

Surrogate		Units
Decachlorobip	henyl (surr)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
3313	TCLP	MB		0.034	0.04014	84.8	10.0-117.		09/15/2000	2146
3313	TCLP	LCS		0.027	0.04014	67.3	10.0-117.		09/15/2000	2219
3313	TCLP	LCS		0.021	0.04014	52.4	10.0-117.		09/15/2000	2253
3313	TCLP	EB1		0.034	0.04014	84.8	10.0-117.		09/15/2000	2326
200382-1	TCLP			0.036	0.04014	89.8	10.0-117.		09/16/2000	0000
200382-1	TCLP	MS		0.033	0.04014	82.3	10.0-117.		09/16/2000	0033
200382-1	TCLP	MS		0.031	0.04014	77.3	10.0-117.		09/16/2000	0106

Tetrachloro	-m-vvl	ana (su	er)	<u>-:</u>	ug/L	
Surrogate					Uni	ts

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
3313	TCLP	MB		0.034	0.04012	84.8	15.0-130.		09/15/2000	2146
3313	TCLP	LCS		0.035	0.04012	87.3	15.0-130.		09/15/2000	2219
3313	TCLP	LCS		0.033	0.04012	82.3	15.0-130.		09/15/2000	2253
3313	TCLP	EB1		0.032	0.04012	79.8	15.0-130.		09/15/2000	2326
200382-1	TCLP			0.031	0.04012	77.3	15.0-130.		09/16/2000	0000
200382-1	TCLP	MS		0.034	0.04012	84.8	15.0-130.		09/16/2000	0033
200382-1	TCLP	MS		0.032	0.04012	79.8	15.0-130.		09/16/2000	0106

LABORATORY CHRONICLE

Job Number: 200382

Date: 09/18/2000

DILUTION

CUSTOMER: RMT PROJECT: RIVERDALE CHEMICAL ATTN: Rae Mindock

Lab ID: 200382-1 METHOD

3510C

8081A

1311

Client ID: DSL6 DESCRIPTION

Extraction for TCLP (Chlor.Pest) Organochlorine Pesticide Analysis TCLP Extraction

Date Recvd: 09/11/2000 Sample Date: 09/11/2000 RUN# BATCH# PREP # DATE/TIME ANALYZED

3313 09/15/2000 0000 1 3330 3313 09/16/2000 0000 3217 09/13/2000 0000



		Contact: RATE		cck			Con	Contact:Sume							Lab Lot# -	
Committed To Your Succe	<b>=</b>	Company: R		υ <b>Υ</b> ( 4 )	de l	1/e za	Com	npany: _  ress:							Package Sealed Yes No	Samples Sealed Yes (No.
Chicago Laborato		Phone: 312	30 Ch.	(a qc C 201	<u>Ii</u>	<u>lot</u> ck	Phone:								Received on Ice Yes(No)	Samples Intact Yes No
2417 Bond Street University Park, IL 604 Phone: 708-534-5200 Fax: 708-534-5211	66	Fax: 312				_									Temperature °C of Copier	
Sampler Name:	Signatur	e: /)	1.1	Refrg #										Ī	Within Hold Time	Preserv. indicated
H. Grus	Project I	Mumber:		Cont.											Yes No	Yes No NA Res. Cl <sub>2</sub> Checkyok
Riverdate	j -	4962.0)		olume reserv	402						╂		-	1-	Yes No NA	Yes No NA
Project Location:  Lab PM:  LCC LCS	Date Re Hard		,	Matrix Comp/Grab	) Dest	l i									Sample Labels an	d COC Agree COC not present
Laboratory O	Client Sample ID	Samp Date	ling Time	Comp	TCLP					/ 					Additional An	alyses / Remarks
0	5L6	9/11/00	2:45												Pesticular	only
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RELINQUISHED BY	COMPANY		ATE O		TIME		Ri	ECEIVE	BY (	the.	7	_ @	COMF	PANY	()OATE) DATE	OU MEOU
Matrix WW = Wastewater W = Water S = Soil SL = Sludge	Key SE = Sediment SO = Solid DS = Drum Solid DL = Drum Liquid	Container Key 1. Plastic 2. VOA Vlal 3. Sterile Plastic 4. Amber Glass	1. H 2. H 3. H 4. N	ICI, Cool 12804, C INO3, Co IaOH, Co	ool to 4° ol to 4° ol to 4°	·	C	OMME	NTS:		<i>j</i>				Date Received Courier: #/ 5	Hand Delivered
NS = Miscellaneous OL = Oil - A = Air	L = Leachate WI = Wipe O =	5. Widemouth Glass 6. Other	5. 1	aOHVZn cool to 4°	Acetate, (	Cool to 4*		·							Bill of Lading:	
1						<del></del>									STL Chicago Chair	n of Custody: CHI-22-09-231/A-5/9

#### Glossary of LabNet Flags, Qualifiers and Abbreviations

#### **Inorganic Qualifiers**

- U Analyte was not detected at or above the reporting limit.
- < Not detected at or above the reporting limit
- J Result is less than the RL, but greater than or equal to the method detection limit.
- B CLP: Result is less than the CRDL, but greater than or equal to the instrument detection limit.
- S Result was determined by the Method of Standard Additions.

#### Inorganic Flags

- ^ ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, MRL: Instrument related QC exceed the upper or lower control limits.
- H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
- LCS, LCD, MSD, MD, PS, PSD: Batch QC Exceeds the upper or lower control limits.
- N MS, MSD: Spike recovery exceeds the upper or lower control limits.
- 4 MS, MSD: The analyte present in the original sample 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
- E SD: Serial Dilution exceeds the control limits.
- W PS: Post-digestion spike was outside 85-115% control limits.
- + MSA correlation coefficient is less than 0.995.

#### **Organic Qualifiers**

- U Analyte was not detected at or above the reporting limit.
- ND Compound not detected
- J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
- B Compound was found in the blank and the sample.
- M Manually integrated compound.
- Q Result was qualitatively confirmed, but not quantified.
- I Indicates the presence of an interference.
- C Pesticide identification was confirmed by GC/MS.
- Y The chromatographic response resembles a typical fuel pattern.
- Z The chromatographic response does not resemble a typical fuel pattern.

#### Organic Flags

- MB, EB, MLE: Batch QC is greater than reporting limit.
- LCS, LCD, CCV, MS, MSD, Surrogate, RS: Batch QC Exceeds the upper or lower control limits.
- D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
- P The lower of the two values is reported when the percent difference between the results of two GC columns is greater than 25%.
- A Concentration exceeds the instrument calibration range or below the reporting limit.

**Abbreviations** 

Batch Designation given to identify a specific extraction, digestion, preparation set, or analysis set

CAP Capillary Column

CCB Continuing Calibration Blank
CCV Continuing Calibration Verification
Contract Contract laboratory identification code
CRA Low Level Standard Check – GFAA; Mercury

CRI Low Level Standard Check - ICP

Dil Fac Dilution Factor

DL Secondary dilution was performed

DL Fac Detection Limit factor

DSH Distilled Standard – High Level
DSL Distilled Standard – Low Level
DSM Distilled Standard – Medium Level

EB Extraction Blank
ICB Initial Calibration Blank
ICV Initial Calibration Verification
IDL Instrument Detection Limit
ISA Interference Check Sample A
ISB Interference Check Sample B

Job No. The first six digits of the Sample ID which refers to a specific client, project and sample login group

LAB ID An 8 number unique laboratory identification LCD Laboratory Control Standard Duplicate

LCS Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest

MB Method Blank or (PB) preparation blank

MD Method Duplicate
MDL Method Detection Limit

MLE Medium Level Extraction Blank
MRL Method Reporting Limit Standard
MSA Method of Standard Additions

MS Matrix Spike

MSD Matrix Spike Duplicate

ND Not Detected PACK Packed Column

PREPF Calculation factor used by the Laboratory's Information Management System (LIMS)

PS Post Spike

PSD Post Spike Duplicate

RA Re-analysis

RE Indicates a re-extraction and analysis

RL Reporting Limit

RPD Relative Percent Difference of duplicate (unrounded) analyses

RRF Relative Response Factor
RS Reference Standard
RT Retention Time
Retention Time

RTW Retention Time Window

Sample ID A 9 digit number unique for each sample; the first six digits are referred as the job number.

SCB Seeded Control Blank
SD Serial Dilution

UCB Unseeded Control Blank

#### **NOTES:**

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.

- Soil, sediment and sludge results are reported on a dry weight basis except when analyzed for landfill disposal or incineration parameters. All other results on a solid matrix are reported on an "as received" basis unless noted differently.
- Reporting limits are adjusted for preparation sample size, sample dilutions and sample moisture content if analyzed on a dry weight basis.